Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

REMARKS

This paper is in response to the Advisory Action mailed September 20, 2007, and it is supplemental to the Response Under 37 CFR 1.116 filed on August 6, 2007, in response to the Final Office Action mailed June 5, 2007.

Claims 1, 4, 8-9, 16-17, 21-22, 26-27, 31-32, and 36 are amended. No claims are canceled or added. As a result, claims 1-36 are now pending in this application.

Interview Summary

Applicant's undersigned attorney thanks Examiner Kenneth Tang for the courtesy of a telephone interview on October 2, 2007 to discuss the claim language.

Supplemental Information Disclosure Statement

Applicants respectfully request that a copy of the 1449 Form, listing all documents that were submitted with the Supplemental Information Disclosure Statement filed on May 15, 2007. marked as being considered and initialed by the Examiner, be returned with the next official communication.

Amendments to Claims 1, 4, 8-9, 16-17, 21-22, 26-27, 31-32, and 36

Claims 1, 4, 8-9, 16-17, 21-22, 26-27, 31-32, and 36 have been amended by substituting the phrase "a notification" for "an explicit and delayed acknowledgement". In claim 1, the word "and" has been added after "engines:".

No new matter has been introduced. The amendments to the claims are made for the purpose of clarification, and they are not intended to limit the scope of equivalents to which any claim element may be entitled.

Withdrawal of Rejection of Claims 1-36 Under 35 U.S.C. §112, First Paragraph

Applicants note with appreciation that in the Advisory Action the Examiner withdrew the rejection of claims 1-36 under 35 U.S.C. §112, first paragraph.

Rejection of Claims 1-36 under 35 U.S.C. §103(a) as Unpatentable over Campbell in view of Sasou and further in view of Bacon

Claims 1-36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Campbell et al. (U.S. 2001/0024497 Al) in view of Sasou et al. (U.S. 5,463,208) and further in view of Bacon et al. (U.S. 2002/0052771 Al).

First, Applicants do not admit that Campbell and Bacon are prior art, and they reserve the right to swear behind these references in the future.

Secondly, since a *prima facia* case of obviousness has not been established, Applicants respectfully traverse this rejection.

The Examiner has the burden under 35 U.S.C. §103 to establish a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074, 5 U.S.P.O.2d (BNA) 1596, 1598 (Fed. Cir. 1988).

The References Do Not Teach All Claim Limitations.

Regarding newly amended claim 1, for example, Applicants assert that none of the applied references teaches the following limitation:

only if a workflow is successfully completed by a first workflow engine for an execution-requesting client, sending a notification to the execution-requesting client, else assigning the workflow to a second workflow engine by sending it a work assignment message, in response to which the second workflow engine alone completes the workflow

The Examiner concedes that Campbell fails to explicitly teach sending a notification to an execution-requesting client only if a workflow is successfully completed by a first workflow engine, else assigning the workflow to a second workflow engine by sending it a workflow assignment message.

Sasou discloses a main CPU 102 (FIG. 1) and a series of sub-CPU's 141A, 142A-B, and 143A (FIG. 1). The plurality of sub-CPU's independently execute a series of tasks set in advance in accordance with a predetermined sequence (see Abstract). A notification section in the last sub-CPU supplies a processing completion signal indicating completion of the series of tasks to the main CPU when the last task is completed. It is noted that each sub-CPU always performs the same unique task, and that there is just one sub-CPU to perform such unique task. It is further noted that sub-CPU 142B always sends a notification signal 30 to the next sub-CPU 143A, whether recording is successfully completed on the card 105 or not (see column 5, lines 50-58).

This is in sharp contrast to Applicants' claim 1, for example, in which a notification is sent to the execution-requesting client <u>only</u> if a workflow is <u>successfully</u> completed by a first workflow engine, otherwise assigning the workflow to a second workflow engine by sending it a work assignment message.

Applicants' method is more efficient than that of the Examiner's proposed combination of Campbell and Sasou, because in Applicants' method the execution-requesting client is not bothered with workflow failure messages. Instead, in Applicants' method another workflow engine is assigned to process the workflow in a manner that can be completely transparent to the execution-requesting client.

The Examiner concedes that Campbell and Sasou are silent on assigning workflow to a second workflow engine by sending it a work assignment message if the first workflow is not completed, wherein the second workflow engine alone completes the workflow.

The Examiner asserts that Bacon teaches one or more workflow engines that cooperate with each other to determine whether subsequent activity is needed to complete the activity and then make the assignment to complete the workflow. The Examiner further asserts that it would have been obvious to modify Campbell and Sasou with Bacon, because it improves coordination and cooperation among workflow elements in order to efficiently complete workflows.

Bacon discloses a workflow management system (see Abstract). A server 110 (FIG. 1) includes a pair of workflow engines 115a/115b. It is noted that in Bacon the function of workflow engines 115 is to schedule the sequence of activities of a given process (see Paras. 0032 and 0055). In Bacon, the workflow activities are actually performed by an agent 120 or

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client 130 (see Paras. 0032 and 0055), not by workflow engines 115. Thus, in Bacon the term "workflow engine" has a totally different meaning than in the present application. In Bacon, "workflow engine" means a scheduler and router, not a computer system to execute the workflow, as is the case in Applicants' subject matter.

Applicants' specification states, for example:

Still referring to FIG. 3, using a commercially available middleware product, such as TIB, each workflow can be assigned for execution on a separate computer system, also referred to herein as a "workflow engine". Each workflow engine includes an instance of the application software module(s) necessary to execute any workflow to be performed by it.

Applicants' specification further states:

Workflow 72 performs one or more tasks to carry out the desired client-requested function(s).²

Clearly, Applicants' workflow engine performs all tasks to complete a workflow, whereas in Bacon the workflow engines are mere schedulers and routers to an agent 120 and/or client 130, which are to perform the scheduled activity (see Para, 0032 of Bacon).

Thus, as is the case with Campbell and Sasou, Bacon too fails to disclose assigning workflow to a second workflow engine by sending it a work assignment message if the first workflow is not completed, wherein the second workflow engine alone completes the workflow, because in Bacon the workflow engines do not execute or perform the workflow, so they cannot possibly "complete the workflow".

Not only is Bacon totally lacking in any second workflow engine that "completes the workflow", Bacon is also totally lacking in any second workflow engine that <u>alone</u> completes the workflow. Applicants' claimed subject matter is clearly different.

No Prima Facie Case of Obviousness Has Been Established.

Thus, Applicants assert that a *prima facie* case of obviousness has not been established, because the references, whether considered individually or combined in the manner suggested by the Examiner, fail to disclose all of the elements as recited in Applicants' claims.

² Specification, page 8, lines 1-2.

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¹ Specification, page 6, beginning line 22.

For the above reasons, independent claim 1 should be found to be allowable over any combination of Campbell, Sasou, or Bacon, and Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. '103(a) as being unpatentable over Campbell in view of Sasou and Bacon should be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious.³

Claims 2-8, which depend from claim 1, directly or indirectly, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Independent claims 9, 17, 22, 27, and 32 recite similar limitations to those recited in claim 1, so they should likewise be found patentable over any combination of Campbell, Sasou, and Bacon. Further, all of the claims dependent, directly or indirectly, from independent claims 9, 17, 22, 27, and 32 should also be found allowable.

Response to the Examiner's Arguments in the Advisory Action

The Examiner stated in the Advisory Action that if Applicants' claims recited that notifications or signals (rather than Applicants' defined "explicit and delayed acknowledgement") are made only if a workflow is successfully completed, then the Sasou reference would not read on the claims.

As noted above, Applicants have amended every applicable claim.

Therefore, claims 1-36 should be found patentable over any combination of Campbell, Sasou, and Bacon.

Additional Elements and Limitations

Applicants consider additional elements and limitations of the rejected pending claims to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

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³ MPEP \$2143.03.

Conclusion

Applicants respectfully submit that claims 1-36 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney Ann M. McCrackin (located in Minneapolis, Minnesota) at (612) 349-9592 or Applicants' below-signed attorney (located in Phoenix, Arizona) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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